INTRODUCTION TO THE JOHANNES LINNEBORN PRIZE AND THE 2019 WINNER LAUDATION

Wim P.M. van Swaaij
Chairman of the Nomination Committee

The Johannes Linneborn Prize was established in 1994 on behalf of the European Commission by Dr. Wolfgang Palz to honor an European individual for an exceptional life-time contribution to the field of sustainable energy from biomass. In exceptional cases the award can be granted to a non-European. It is not a reward for scientific excellence only, but also technical and managerial merits are appreciated. This prestigious award was connected to the name of Johannes Linneborn, a German biomass pioneer and businessman and the manufacturer of more than 500,000 Imbert small-scale wood gasifiers used to fuel cars, when fossil liquid fuels were scarce. His ideal was a world in which mankind lives in harmony with nature with optimal exploiting of biomass for energy and materials.

From a long list of excellent candidates the Prize Committee selected as winner of the Linneborn Prize 2019:

Dr. David Baxter
Former Senior Scientific Officer
European Commission, Joint Research Centre
Petten, The Netherlands

The prize is awarded to him for his consisted excellence for over 25 years in applied research, management of implementation and political policies supporting studies in the area of renewable and sustainable energy production from biomass and waste. His work shows remarkable results in the wide area of R&D related to thermochemical and biological conversion processes of biomass and waste. He provided inspiring and effective leadership in international co-operation projects and programs in these areas.

David Baxter was born in England, UK and obtained his B.Sc Honours degree in Materials Technology (1977) at the Lanchester Polytechnic, Coventry (UK). From 1978-1981 he carried out a study at the JRC Petten (The Netherlands) on high temperature oxidation of stainless steel which led to a promotion (PhD, 1981): 'The Scaling of Austenitic Fe-Cr-Ni Alloys at High Temperatures'. (Promoters: Prof. R.C. Hurst (JRC Petten) and Dr R. Derricott (Wolverhampton)). After these education and training years he was employed (1981-1986) by the Argonne National Laboratory, Chicago, Illinois (USA) as Principle Research Investigator. He was involved in materials development and surface protection systems for coal gasification and combustion processes.

From 1986-1991 he worked in industry at INCO Alloys International Hereford (U.K.). There he was Material Technologist in the production of super alloys for aero- and land- based applications. Later he became production manager responsible for open-die forging, powder atomization, mechanical alloying and waste recovery and disposal. In September 1991 he joined the European Commission Joint Research Centre, Petten in the Netherlands where he would become Senior Scientific Officer in the Renewables Unit, responsible for solid and gaseous biomass and application technologies.

David's broad knowledge in material science and technology combined with experience in high temperature materials and protective coatings application in high temperature processes, were essential assets for his work on biomass and waste at JRC. Although his previous work was mainly directed towards combustion and gasification of coal, many aspects of thermochemical processes for biomass and waste show similar challenges, like cost effective corrosion resistance in heat exchangers, turbines etc.

With respect of the Linneborn prize we will concentrate on the 25 years at JRC.

In the very first years at JRC David his work field expanded to advanced ceramics for use in energy technologies while in the later nineties the emphasis shifted towards biomass and waste. Part of his work involved setting-up a large successful European waste incineration network of industry operators and researchers focused on energy efficiency and emission reduction. Based on his broad experience and personal qualities, from 2000 on his research evolved into supporting research for political policy in the EU. As a member of the European Bioenergy Industrial Initiative he did important work within the Strategic Energy Technologies Plan (SET). He closely supported tasks to implement new legislation, for example the Renewable Directive and directives related to waste.

One could expect that this type of work would lead to advice and reports only, but during the discussed period at JRC David Baxter co-authored over 80 well-cited publications in scientific and technical journals, edited several books, handbooks and presented results at conferences, workshops etc. Subjects covered the whole range of his activities: material science and technology, corrosion, ceramic advanced materials, coatings, application of these in combustion and gasification processes, gaseous emissions from incinerators and biomass plants, fluid bed combustion, refined and in-situ measurements and sensors, co-firing of biomass, hydrogen production via chemical looping, analyzing techniques for minerals in biomass and ashes thereof and many more subjects.

Over the years he supervised a number of post graduate researchers and worked alongside visiting scientists mainly from new EU member countries, aiming to build and extend research collaboration across the continent.

David Baxter was open for and active in international worldwide collaboration with individuals and organizations. As an example he was a highly successful leader of the International Energy Agency, Biogas Task 37, promoting sustainable biogas production from agricultural residues, energy crops and municipal waste. He showed among others a deep understanding of the wide variation in type of equipment ranging from small farm scale operations to large industrial plants, their potential and role in developing electric networks and interaction with other renewable energy and many more aspects. He showed a keen interest in and promoted the biogas plants sustainability by stressing the need for recycling the fertilizers and nutrients to the farmland.

Another example of important international cooperation is his very significant contribution to the organization and development of the scientific program and its implementation of our EUBCE conferences. He presented well received overviews and summaries and was also involved in several other activities showing very effective leadership.

David has now retired from JRC but remains active in consultancy projects and local voluntary work.

Dr. David Baxter, the Linneborn committee selected you as the winner of the Linneborn Prize 2019 for among others the following reasons:

In your career you made outstanding contributions to the sustainable use of biomass and waste as sources of renewable energy. Your contributions are distributed along the whole trajectory from research to implementation and supporting research for political policy in the EU, including tasks to implement new legislation. Next to your scientific and technological skills you are generally described by those collaborating with you as being gentle, friendly, approachable, collaborative and diplomatic in bringing your alternative views forward and yet if necessary persistent.

We hope that the biomass world can still profit from your talents in the future and we are certain that the whole biomass community in Europe and worldwide will join the Linneborn committee in their warmest congratulation.